

PROFESSIONAL FORUM



Modernizing the Airborne

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In the years preceding World War II, the combat triumvirate of the U.S. Army was composed primarily of foot-mobile infantry, towed artillery, and a handful of light tanks. The onset of hostilities, however, was the catalyst for a modernization effort that would dramatically change the organization, training, and equipment of U.S. ground forces. The Army transformed itself, from a force trained and equipped for the static nature of World War I, into one well adapted to the high-mobility demands of blitzkrieg.

The increased use of truck transport allowed the infantry to be moved about the battlefield much faster, although only when out of contact with the enemy. To overcome that problem, the thinly armored M3 "half-track" was developed, which provided improved cross-country ability and some degree of protection from small arms fire, although its open-top design left it vulnerable to artillery airbursts. In the 1960s the creation of the M113 armored personnel carrier (APC) produced another leap ahead in mobility and protection, thanks to its full-tracked, completely enclosed configuration. Two decades later, the adoption of the M2 Bradley infantry fighting vehicle (IFV) gave the U.S. infantryman even greater combat capability.

The artillery branch evolved in a

similar fashion over the past six decades, going from completely unprotected, towed artillery pieces to improvised mountings of howitzers on half-tracks and tank chassis, to purpose-built self-propelled guns such as the M109A6 Paladin. The tank force, which began with combat vehicles that were inadequately armored and woefully under-

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gunned, now fields the best main battle tank (MBT) ever made—the M1A2 Abrams.

The history of the airborne stands in stark contrast to the progress of the infantry, artillery, and armor. When the 82d Airborne Division was activated in 1942, it was made up primarily of foot-mobile infantry, with a few small-caliber, towed artillery pieces—and no tanks. The 82d has changed little since its inception half a century ago. It is still mainly a light infantry force, with a small number of towed howitzers for support; it also has some additional combat power in the form of TOW missile launchers mounted on HMMWVs

(high-mobility multipurpose wheeled vehicles) and a single battalion of M551A1 Sheridan light tanks. Essentially, the paratroopers are stuck in World War II mode, while "leg" infantry is becoming a 21st Century force, having advanced from foot mobility to truck, then half-track, APC, and IFV.

The traditional role of paratroopers is to drop into the enemy's rear area, seize critical objectives, and hold on until relieved by conventional ground forces. This linkup must occur quickly to achieve mission success and paratroop survival. A prime example of the inherent weakness of this strategy is Operation Market Garden (September 1944), in which British and Polish airborne forces were annihilated by German Panzer units while attempting to capture and hold Arnhem bridge. Many paratroopers were killed, wounded, or taken prisoner, in large part because they were outclassed in firepower, armor protection, and mobility: They couldn't run, they couldn't hide, they had precious little with which to fight, and the relief force failed to reach them!

As a consequence of similarly bitter wartime experience—along with some thoughtful, farsighted analysis—the Russian (formerly Soviet) General Staff eventually concluded that airborne units must have the means to conduct operations without the need to link up with

ground troops. Doing this meant giving the paratroops roughly the same degree of tactical and technological advantage enjoyed by the heavy forces. The result was the introduction in 1970 of the BMD airborne combat vehicle (ACV), which enabled the innovative creation of the world's first fully mechanized airborne force.

Somewhat ironically, the parachute-deliverable M113 APC had entered production a decade earlier, a fact that would have permitted the modernization of U.S. airborne forces ten years before their Russian counterparts.

Curiously, the interest—and the vision—has been lacking in this country. Instead of embracing mechanization as a means of expanding and enhancing their warfighting capability, the U.S. airborne community seems to decry the concept stating two basic reasons: "There is not enough airlift," and "We can fight heavy forces successfully in all but the most open kinds of terrain, so why make a change that would rob us of our strategic mobility?" These issues are certainly serious enough to merit examination and analysis in an effort to determine their validity and provide possible alternatives.

Not enough airlift? If this is true, the obvious answer is, "Get more!" If, however, politico-economic factors prohibit the acquisition of additional transport aircraft for this purpose, then what options are available that could be implemented with existing airlift assets?

Just how many transports would actually be required to lift a mechanized airborne force? Before answering these questions, it is first necessary to know the basic specifications of the airborne combat vehicle.

The Vehicle

Although it would be desirable to develop a state-of-the-art ACV family—an airborne combat system (ACS)—budget constraints would doubtless prevent it. Fortunately, a vehicle currently in service—the M113A3 APC (and certain of its variants) has most of the required characteristics:

First, with its small size and light weight, the M113A3 is capable of transport and low-velocity airdrop (LVAD, or "heavy drop") by all four major U.S. Air Force cargo planes—the C-130, C-141, C-5, and C-17; it can also be carried a short distance as a sling load by the CH-47D helicopter. The only other full-tracked, armored vehicle now in the inventory that has the same LVAD capability is the M551A1 Sheridan tank. If the Sheridans of the 82d's 3d Battalion, 73d Armor (originally slated to be replaced by the now-defunct XM8 armored gun system) are withdrawn from service as planned, M113 variants will be the Army's only tracked combat vehicles with full LVAD capability.

The M113A3 is a vast improvement over the previous M113s. A more powerful but more fuel-efficient turbo-

charged engine and a new transmission deliver automotive performance on a par with that of the Bradley fighting vehicle. Internal kevlar spall liners and external fuel tanks provide a great increase in crew survivability; mounting provisions for bolt-on armor packages make possible the upgrade of protection from the basic level (small arms, artillery fragments) to 14.5mm heavy machinegun, 30mm cannon, and rocket-propelled grenade (RPG) rounds. The M113A3's tactical mobility is further enhanced by its ability to swim across small bodies of water with little or no preparation.

While basic armament—a .50-caliber machinegun—is rather minimal for modern warfare, the elegant simplicity of the M113A3's boxlike structure makes it ideally suited to a "modular" approach to armament installation.

Weapons that can be mounted on the vehicle include the M2 .50-caliber heavy machinegun (HMG), the Mk 19 40mm grenade machinegun (GMG), the M60/M240B 7.62mm medium machinegun (MMG), the M40A2 106mm recoilless rifle, TOW, Dragon, and Javelin antitank guided missiles (ATGMs), 81mm and 120mm mortars (in the M125 and M1064 mortar carrier variants). Even the Hellfire missile has been fired from a modified M113 that was fitted with a prototype eight-shot turret assembly. With the exception of the multiple Hellfire launcher, the weapons listed can be mounted in various combinations according to mission needs. The following are some examples:

General Purpose/Urban Terrain.

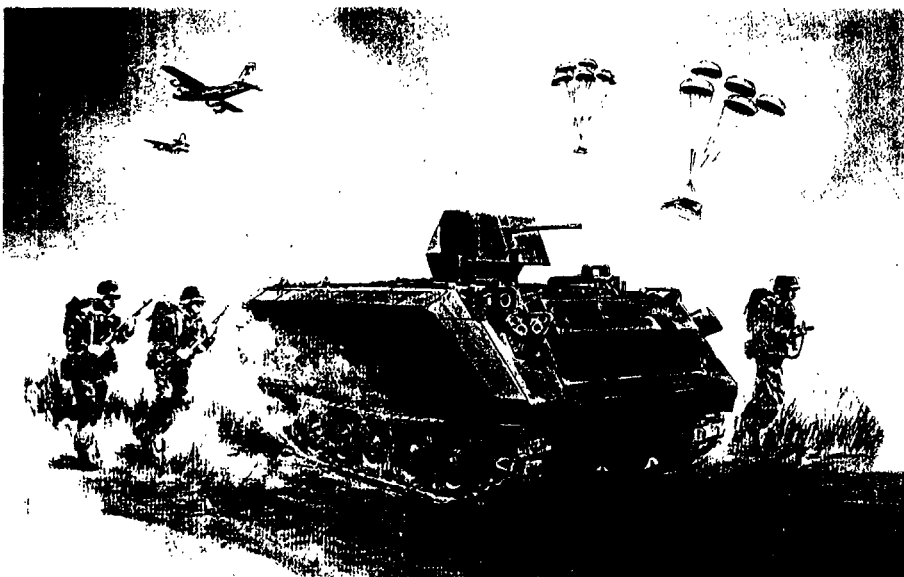
One GMG or HMG, one Javelin ATGM, two MMGs, and one LMG. Configuration allows maximum, continuous 360-degree observation and target engagement.

Direct-Fire Support (Version 1).

One 106mm recoilless rifle, one 40mm GMG, and one 7.62mm MMG—a no-cost "armored gun system."

Direct-Fire Support (Version 2).

Two 106mm recoilless rifles, one .50-caliber HMG. Spanish TC-7/106 one-man turret would provide armor protection for the gunner.



Antitank. Incorporates a two-man turret similar to that on the French AMX-10 HOT vehicle, with four ready-to-fire ATGMs—TOW, TOW follow-on, or Javelin.

Indirect-Fire Support or Antitank: M1064A3 self-propelled 120mm mortar has almost three times the lethality of 81mm mortar, six times that of 60mm mortar currently used by airborne. 120mm precision-guided rounds would allow engagement of enemy armor at extended range (7,000-plus meters) and in defilade.

Airlift Requirements

In addition to the paratroopers, an airborne infantry battalion has 20 TOW HMMWVs, 36 cargo HMMWVs, and 10 2½-ton trucks. The artillery battery has six HMMWVs to serve as prime movers for the M119A1 howitzers, the air defense platoon has four HMMWVs, and the engineer platoon has several pieces of heavy earthmoving equipment. Ten C-130s or eight C-17s would be needed to transport the 730 jumpers of the battalion task force. To airlift all of these vehicles and heavy equipment mentioned would require about 54 C-130s or 19 C-17s. An ACS battalion with, for instance, 45 M113A3s, nine M1064A3s, and six scout HMMWVs would need 57 C-130s or 19 C-17s. If the paratroopers were to "tailgate" the vehicles—jump from the same aircraft, immediately following the heavy drop load—the personnel aircraft would not be needed, thereby freeing eight to 10 airlift sorties. A mechanized force might require slightly more (C-130), the same amount (C-17), or even significantly fewer ("tailgating") aircraft for transport than does the current organization; this is quite contrary to the widely held belief that a mechanized airborne unit would require excessive airlift resources.

Organization

Two organizational approaches seem worth considering. One of these is to follow conventional practice and mechanize each battalion in all three brigades. This route would cost more to implement and would place greater ad-

ministrative, logistical, and maintenance demands on the units, but it would also permit all nine battalions to be mechanized at the same time.

This configuration would have been very appropriate in August 1990 when

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the entire 82d Airborne Division deployed to Saudi Arabia. There, in a landscape without cover and concealment or shade from the sweltering summer sun—and facing a mobile, armored opponent—the footmobile paratroopers could do no more than dig in and hold on until the heavy forces arrived. Fortunately, although the Republican Guard T-72s may have been superior to the World War II German Panthers and Tigers, the Iraqi soldiers displayed only a fraction of the competence—and none of the will to fight—that the Panzer crews showed at Arnhem, thereby avoiding a replay of that debacle.

Another factor to consider is the pending retirement of the M551A1 Sheridans. When the Sheridans are gone, the paratroopers will not have an armored gun system that can be parachuted into the drop zone alongside

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them. In a mechanized airborne force, however, some of the M113A3s could be equipped with recoilless rifles to provide organic direct-fire support; both the M40A2 106mm and the M3 84mm Ranger antiarmor, antipersonnel weapon system (RAAWS) could be used in this role. Although the M40A2 has greater range and lethality, the M3 is light enough for easy dismounted use should the need arise. There are a few

M40A2s still in storage at Anniston Army Depot (28 serviceable, as of this writing), but the 106 has been manufactured recently by Israeli Military Industries, and the 3A-HEAT-T round made by the firm of BOFORS reportedly has twice the penetration of the conventional 106 round and can defeat explosive reactive armor. These options are clearly less than ideal, but they are still far superior to hand-held weapons such as the LAW (light antiarmor weapon) and the AT-4.

The other organizational approach is to have an autonomous ACS brigade within the 82d Airborne functioning in much the same manner as the 3d Battalion, 73d Armor. Indeed, the armor battalion is probably the logical choice to serve as the nucleus of the proposed ACS brigade. (This battalion could also initially serve as a battalion-size Airborne Experimental Force to test the concept in Advanced Warfighting Experiments.)

There would be a number of advantages to having a separate brigade. The infantry battalions would not be saddled with the added maintenance and supply efforts required by organic light armor, nor would the paratroopers lose their dismounted skills, because they would have the use of the M113s only for required training and maintenance and periodic operations.

This should not be viewed as simply an armored transportation brigade, however. Even though it would function in that role for operations requiring mechanized infantry, it has the potential for employment in a variety of roles and missions.

In a *Desert Shield* type of scenario, for example, the M113A3s could be configured as tank killers, with ATGM launchers installed for line-of-sight engagements, while M1064A3 120mm self-propelled mortars could have precision-guided mortar munitions for long-range and indirect-fire use. This configuration would need only four crewmen per M113, a substantial reduction in personnel requirements compared to the manpower-intensive infantry units. A single ACS brigade could field as much antitank firepower as two bri-

gades of parachute infantry—twice the combat power, with half the troops.

Class III supply (petroleum, oil, lubricants) would be about as demanding as for those same infantry brigades, but this should be mostly (if not completely) offset by the greatly reduced requirements for Class I (food) and water, the latter being as critical as fuel in a desert environment. The need for items in Classes II, IV, VI, and VIII should also be minimized because of the reduced number of soldiers.

As for deployability, only 22 C-5 sorties would be required to transport the brigade's 170-plus armored vehicles. A force of armored, high-mobility, high-lethality weapon systems could maneuver according to the evolving situation—instead of just sitting and waiting behind a "line in the sand" hoping the enemy would attack at the most favorable time and place.

During World War II, the available technology did not permit the mechanization of parachute infantry. The workhorse of the air fleet—the legendary

C-47—was not designed for parachute delivery of light armor; and the existing APC—the M3 half-track—was too big and heavy to be airdropped.

With the postwar development of the C-130 and other, larger transport aircraft, and the adoption of the aluminum-hulled M113, the technological aspects of the situation changed. Unfortunately, the U.S. airborne community failed to take advantage of these new circumstances. Other nations have been more adaptive, however. Israeli paratroopers readily incorporate the M113 into their operations, making full use of the vehicle's tactical mobility and armor protection. The German airborne has recently added a mechanized antitank battalion—armed with the ultralight, helicopter-transportable Wiesel (TOW and 20mm cannon versions)—to its force structure. And, of course, the Russians have equipped several divisions with BMD variants.

These countries have taken the lead in adding a new dimension to airborne warfare. By combining the superior

tactical potential of mechanization with the inherently unique advantages of vertical envelopment, they are creating parachute-deliverable forces capable of employment across the entire operational continuum. Since 1989 the U.S. Army has been downsized from 18 divisions to ten, and there is talk that end strength could be reduced even further. This smaller Army of the 21st century cannot afford large, special-purpose units. Every division needs to be equipped and trained to fight and win on all types of terrain, and across the entire spectrum of ground combat scenarios. If the 82d Airborne Division is to become a full-spectrum force, it must mechanize; failure to do so is an open invitation to military obsolescence and battlefield defeat.

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